

Ton Duc Thang University Center for Applied Information Technology



Course Lecture

FUNDAMENTALS OF INFORMATICS 2

Website: cait.tdtu.edu.vn

Facebook: https://facebook.com/trungtamtinhoc



Course Materials

• Textbooks:

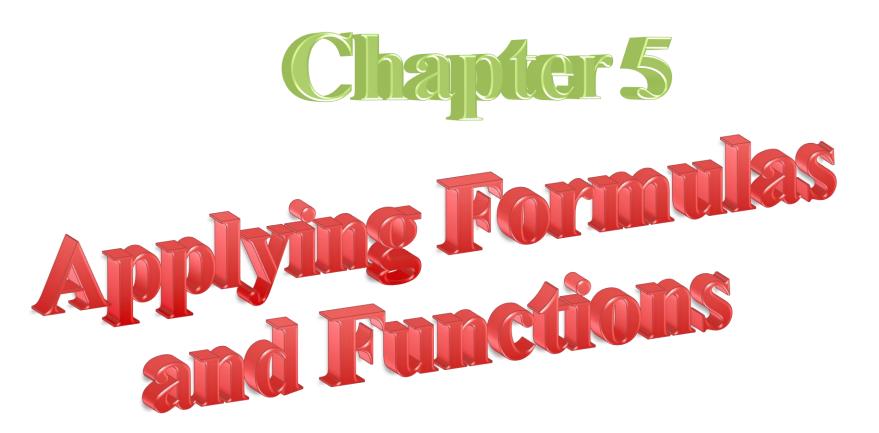
Joan Lambert, MOS 2016 Study Guide for Microsoft Excel,
 2017.

• References:

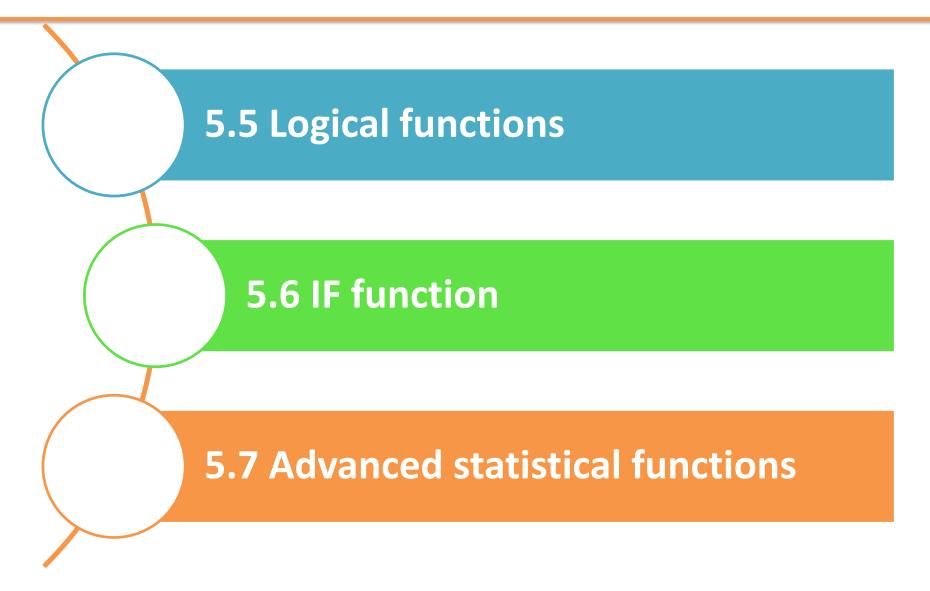
- Joan Lambert, MOS 2016 Study Guide for Microsoft PowerPoint, 2017.
- John Wiley, Microsoft Official Academic Course, Microsoft Word core 2016, 2016.



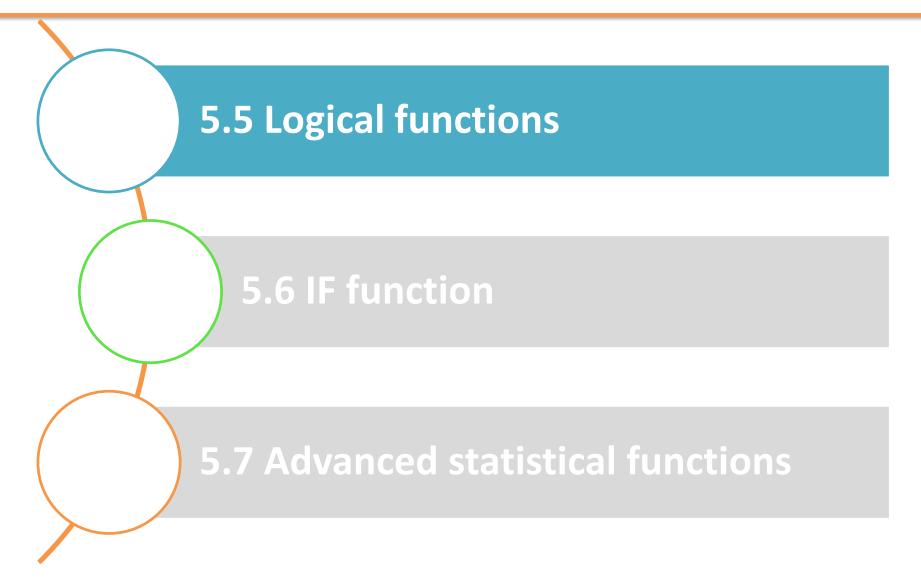
Ton Duc Thang University



**Chapter 5. Applying Formulas and Functions



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5.5- Logical functions

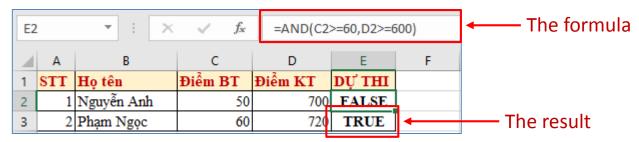
- AND function:

+ Syntax:

- AND(logical 1, [logical2],...)
- + Arguments: logical1, logical2... are logical values or logical formulas.
- + Task: Returns TRUE if all of the arguments evaluate to TRUE, return FALSE if any argument evaluates to FALSE.

Example:

- Ex1: AND(5>3,4<6,5>5) \rightarrow The result is FALSE
- Ex2: $ND(5>3,4<6,5>=5) \rightarrow The result is TRUE$
- Ex3:





5.5- Logical functions

- OR function:

+ Syntax:

OR(logical 1, [logical2],...)

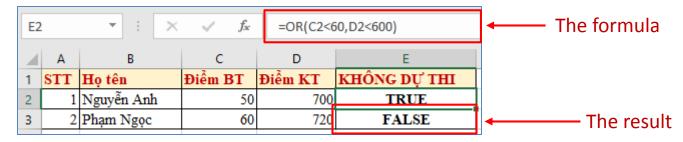
- + Arguments: logical1, logical2... are logical values or logical formulas.
- + Task: Returns TRUE if any argument evaluates to TRUE, return FALSE if all arguments evaluate to FALSE.

Example:

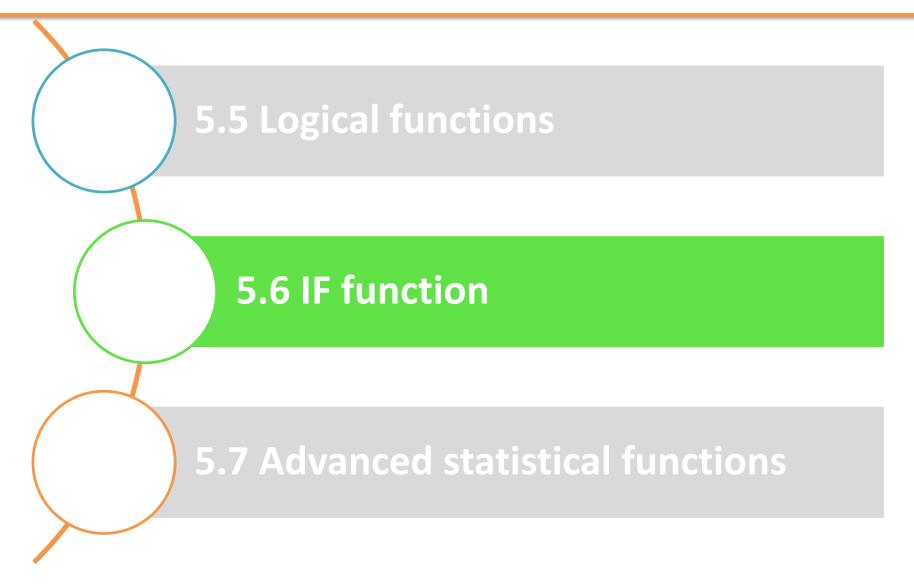
• Ex1: OR(5>3,4>6,5>5) \rightarrow The result is TRUE

• Ex2: $OR(5<3,4>6,5>5) \rightarrow The result is FALSE$

• Ex3:



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5.6- Hàm điều kiện IF

- IF function:

+ Syntax:

IF(logical_test, [value_if_true], [value_if_false])

- + Arguments:
 - logical_test: logical values, logical formulas or logical function.
 - value_if_true: return value for TRUE result of logical_test.
 - value_if_false: return value for False result of logical_test.
- + Task: Test for a specific condition, return value_if_true for the TRUE condition, return value_if_false for the FALSE condition.

Example: In cell A1, enter number 7. In another cell, enter a formula:

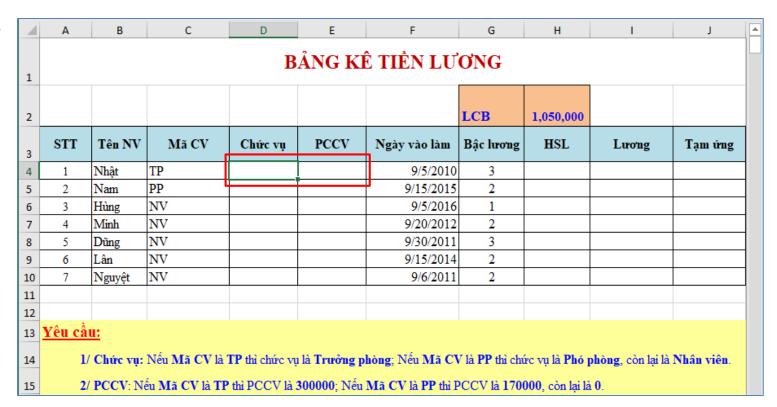
=IF(A1>=5, "ĐẬU", "RỚT") \rightarrow The result is ĐẬU



5.6- Hàm điều kiện IF

- Example for the nested IF: use formulas to fill data for the Chức vụ and the PCCV

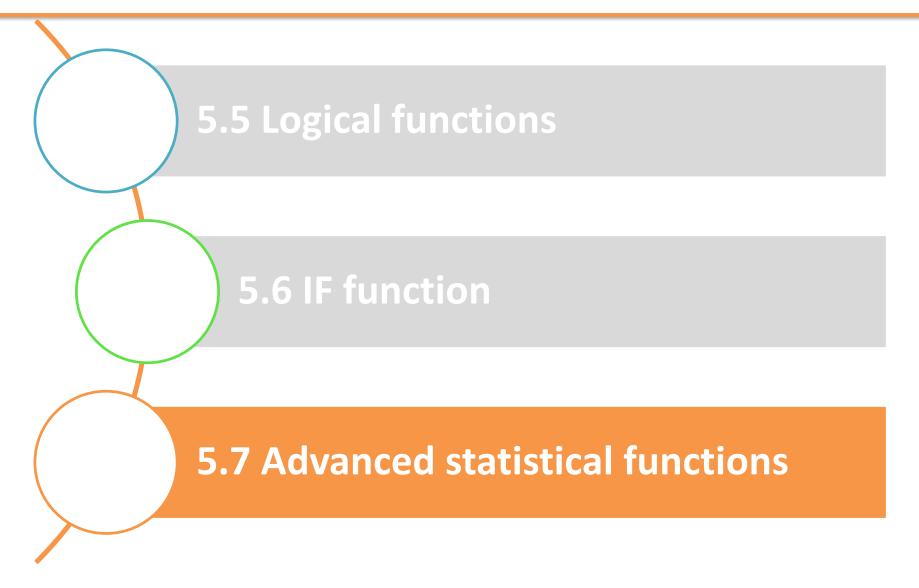
columns



Enter formula in cell D4: =IF(C4="TP", "Trưởng phòng", IF(C4="PP", "Phó phòng", "Nhân viên"))

Enter formula in cell E4: =**IF**(**C4**=**"TP"**,300000,**IF**(**C4**=**"PP"**,170000,0))

**Chapter 5. Applying Formulas and Functions





- COUNTIF function:

+ Syntax:

COUNTIF(range, criteria)

- + Arguments:
 - range: The range of cells to count.
 - criteria: The criteria that controls which cells should be counted.
- + Task: counts the number of cells in a range that match supplied criteria.

Notice: You can use the wildcard characters - the question mark (?) and asterisk (*) as the *criteria* argument. A question mark represents any single character, an asterisk represents any series of character.



- Example: Use formulas to fill data in 2 statistic tables.

4	A	В	С	Е	F	G	Н	I	J	K	À
4	DANH SÁCH THI TUYỀN										
5	5 MSSV TÊN THÍ SINH NGÀY SIN		NGÀY SINH	NHẬP ĐIỂM		ı v Tunvét	THỰC HÀNH	ÐTB	XÉP		
6	MISSV	TEN THI SINH	NGAT SINII	LT	TH	LITHUIEI	THỰC HANH	ыь	LOẠI		
7	A001	Nguyễn Thái Nga	10/25/2000	45	75	4.5	7.5	6	Trung bình		
8	B001	Trương Ngọc Lan	2/24/2001	4	4.5	4	4.5	4.25	Yếu		
9	A002	Lý Cẩm Nhi	6/6/1990	56	56	5.6	5.6	5.6	Trung bình		
10	B003	Lưu Thủy Nhi	7/14/1995	7.5	6.5	7.5	6.5	7	Khá		
11	B004	Trần Thị Bích Tuyên	12/5/2002	89	80	8.9	8	8.45	Giỏi		
12											
13		BẢNG THỐN	G KÊ 1			BÅNG TI	HÓNG KÊ 2				
14		Xếp loại	Số thí sinh			MSSV	Số thí sinh				
15		Khá	?			A	?				
16		Yếu	?			В	?				

Enter formula in cell C15: =COUNTIF(\$J\$7:\$J\$11,B15)

Enter formula in cell H15: =COUNTIF(\$A\$7:\$A\$11,**G15&"*"**)



- SUMIF function:

+ Syntax:

SUMIF(range, criteria, [sum_range])

+ Arguments:

- range: The range of cells that you want evaluated by criteria.
- criteria: The criteria that controls which cells should be added.
- sum_range: The actual cells to add. If omitted, range is used.
- + Task: to sum the values in a range that meet criteria that you specify.

Notice: You can use the wildcard characters - the question mark (?) and asterisk (*) as the *criteria* argument.



- Example: Use formulas to fill data in 2 statistic tables.

			<u> </u>								
4	A	В	С	D	Е	F	G	H	I	J	
4			PHIẾU GI	AO NHẬN	N						
5	MÃ SP	SÓ LƯỢNG	TÊN SP	ĐƠN GIÁ	KHUYÉN MÃI	THÀNH TIỂN					
6	XB	19	Xà bông LifeBoy	4200	3	67200					
7	XS	5	Súp Knor	1000	1	4000					
8	TL	16	Trà lài	4350	3	56550					
9	XB	12	Xà bông LifeBoy	4200	3	37800					
10	XS	8	Súp Knor	1000	1	7000					
11	TL	1	Trà lài	4350	0	4350					
12					Tổng cộng:	?					
13											
14		BÅNG 1			BÅNG	THÓNG KÊ 1		BÅNO	G THÓNG KÊ 2		
15	Mã SP	Tên SP	Đơn giá		Mã SP	Tổng Thành Tiền		Mã SP	Tổng Thành Tiền	,	
16	XB	Xà bông LifeBoy	4200		XB	?		X	?		
17	XS	Súp Knor	1000		XS	?		T	?		
18	TL	Trà lài	4350		TL	?					

Enter formula in cell F16: =SUMIF(\$A\$6:\$A\$11,**E16**,\$F\$6:\$F\$11)

Enter formula in cell I16: =SUMIF(\$A\$6:\$A\$11,**H16&"*"**,\$F\$6:\$F\$11)



- Function AVERAGEIF:

+ Syntax:

AVERAGEIF(range, criteria, [average_range])

- + Arguments:
 - range: The range of cells that you want evaluated by criteria.
 - criteria: The criteria that controls which cells should be averaged.
 - average_range: The actual set of cells to average. If omitted, range is used.
- + Task: Returns the average (arithmetic mean) of all the cells in a range that meet a given criteria.

Notice: You can use the wildcard characters - the question mark (?) and asterisk (*) as the *criteria* argument.



- Example:

	Α	В	С	D	Е	F
	ΜÃ	THÀNH				
1	MH	TIĖN		Tinl	n trung bình thành tiền	của Mã hàng "HD"
2	1HD	7350		HD	=AVERAGEIF(A2:A	A6,"?"&D2,B2:B6)
3	2FD	50			<u> </u>	<u> </u>
4	1DD	1215			Relative rang	I ge reference if the
5	2HD	3185				is not copied
6	2DD	1620				,

	Α	В	С	D	E
	Mã	Số			
1	hàng	lượng			THỐNG KÊ
2	10ML	12		ΜÃ	Số lượng
3	21ML	4		ML	=AVERAGEIF(\$A\$2:\$A\$7,"*"&D3,\$B\$2:\$B\$7)
4	12ML	5		MG	=AVERAGEIF(\$A\$2:\$A\$7,"*"&D4,\$B\$2:\$B\$7)
5	22MG	8		TV	=AVERAGEIF(\$A\$2:\$A\$7,"*"&D5,\$B\$2:\$B\$7)
6	31MG	9			<u>†</u>
7	32TV	1			Absolute range reference if the formula is copie

**Chapter 5. Applying Formulas and Functions

